

**Enemy Swim Lake, South Dakota
Summer and Winter Angler Use and Harvest Surveys
December 2006 – August 2013**

by

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Preface

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Executive Summary

- Enemy Swim Lake experienced variable angling pressure during the summer (May-August) and winter (December-March) survey periods from December 2006 through August 2013. Nonresident anglers comprised a moderate proportion of total anglers surveyed and most summer anglers were fishing from boats. Bluegill, Smallmouth Bass and Walleye were the most targeted species during the summer and Black Crappie, Bluegill and Walleye were most frequently targeted during the winter.
- During the summer, angler catch consisted primarily of Bluegill and Smallmouth Bass. Summer angler harvest was dominated by Bluegill. Black Crappie, Largemouth Bass, Walleye and Yellow Perch were periodic components of summer angler catch and harvest. Winter angler catch and harvest was dominated by Black Crappie and Bluegill. Northern Pike, Smallmouth Bass, Walleye and Yellow Perch were periodic components of winter angler catch and harvest.
- Summer angler satisfaction was variable. Summer angler satisfaction corresponded to catch and harvest rates of Bluegill and Walleye. Winter angler satisfaction is most likely tied to catch and harvest rates for Black Crappie, Bluegill and Walleye and snow amounts limiting access. The lowest winter satisfaction occurred during the 2010-2011 winter which had deep snow, but high catch and harvest rates for Black Crappie and Bluegill.
- Anglers indicated a diversity of factors that are important to consider a fishing trip successful. Both summer and winter anglers cited ‘catching fish’ most frequently followed by ‘relaxation’. ‘Harvesting fish’, ‘participating’, ‘being with friends’ and ‘other’ were infrequently cited by anglers.
- Both summer and winter anglers indicated strong support for the special panfish regulation in place in northeast South Dakota. Few anglers were opposed to the regulation.

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**Enemy Swim Lake, South Dakota
Angler Use and Harvest Survey
December 2006 – August 2013**

The fishery in Enemy Swim Lake has a long history and its popularity among anglers has varied substantially. Enemy Swim Lake is one of the few lakes in northeast South Dakota that has provided angling opportunities during prolonged droughts. Fish stocking events date back to 1914 and most recently Walleye have been stocked biennially or when deemed necessary to maintain the fishery. Most species currently present in the lake are self-sustaining. Walleye and Bluegill are the primary species sought by anglers.

The Walleye minimum length regulation was changed in 2010 from 356-mm (14 inches) to 381-mm (15-inch) to comply with the Walleye Toolbox options (Lucchesi and Blackwell 2009). The panfish daily limit was changed from 10 to the statewide limit of 15 in 2011. A protected slot limit was established in 2005 for black bass (Smallmouth Bass and Largemouth Bass) from 305 to 457 mm (12-18 inches) with a three fish limit, only one of which may be over 457 mm (18 inches). The regulation was changed in 2009 to conform to the Black Bass Toolbox options (Blackwell and Lucchesi 2009) which allows the harvest of five bass with none between 356 to 457 mm (14-18 inches) and only one may be over 457 mm (18 inches).

Enemy Swim Lake was last surveyed for angler use and harvest information during the summers of 2005 and 2006 and winters of 2004-2005 and 2005-2006. Information concerning angler use and harvest is important in the ongoing fisheries management of Enemy Swim Lake. This report summarizes summer and winter angler use and harvest surveys that were completed from December 2006 through August 2013.

Study Site

Enemy Swim Lake is a meandered lake of moderate size (approximately 870 hectares; 2,150 acres) located in Day County approximately 13 kilometers (8.1 miles) north and east of the town of Waubay. The maximum depth of the lake basin is 7.9 meters (26 feet). Much of the shoreline around the lake is private or tribal land and the shoreline is moderately developed. Due to the large amount private property along the lake shore public access is limited to two public boat ramps, one fishing pier, a road access located on the north shore and tribal land with the purchase of a tribal fishing license.

Methods

A roving angler use and harvest survey with two-stage stratification was completed during the summers (May – August) of 2007, 2008, 2009, 2010, 2011 and 2013, and the winters (December – March) of 2006-2007, 2007-2008, 2008-2009, 2009-2010 and 2010-2011. The first stratification unit was between weekdays and weekend days. The second stratification unit was for the time periods that the clerk was present. Because weekends typically receive increased fishing pressure most weekend

days are represented in the survey. Time periods were randomly assigned to available days with weekdays and weekend/holiday days being treated separately when time periods were assigned.

The survey utilized instantaneous angler counts combined with angler interviews. Instantaneous angler counts provided fishing pressure estimates and angler interviews provided information necessary for estimating fish species catch rates, mean angler trip length, and mean party size. Two instantaneous counts of the total number of boats/shacks and all shoreline/open anglers present were made each surveyed day. When counts were not being made, anglers were contacted and interviewed. Angler use and harvest estimates were calculated using Creel Application Software (CAS; Soupier and Brown 2002).

Additional questions asked during interviews were used to obtain angler primary residence, fish species targeted, and angler opinions. Total length (TL; mm) measurements from angler caught fish were recorded during the interview process.

The potential economic value of the Enemy Swim Lake fishery was estimated by multiplying a daily expenditure of \$50 (U.S. Department of Interior, Fish and Wildlife Service, U.S. Department of Commerce, Bureau of Census 2011) by the estimated number of angler days.

Results and Discussion

Angler Target Species

The proportion of anglers indicating no preference for a target species during the summer ranged from 9% (2007) to 25% (2009; Table 1). Of those anglers that indicated a preference their primary target species varied from year to year based on abundance and size. Walleye, Smallmouth Bass and Bluegill were the primary target species during this study. The proportion of anglers targeting Walleye ranged from a low of 17% (2013) to a high of 47% (2008; Table 1). The proportion of anglers targeting Smallmouth Bass ranged from 10% (2008) to 41% (2011; Table 1). The proportion of anglers targeting Bluegill ranged from 11% (2009) to 40% (2013; Table 1). Black Crappie, Largemouth Bass, Northern Pike and Yellow Perch were targeted by few anglers during the summer (Table 1).

A moderate proportion of anglers interviewed during the winter indicated no preference for target species; the percent of anglers indicating no preference ranged from 12% (2009-2010) to 48% (2007-2008; Table 2). Of those anglers that indicated a preference, Bluegill was their primary target species with proportions ranging from 24% (2007-2008) to 62% (2010-2011; Table 2). Black Crappie, Walleye and Smallmouth Bass were targeted by a moderate proportion of anglers when abundance and size were desirable. Northern Pike and Yellow Perch were targeted by few anglers during the winter (Table 2).

Fishing Pressure

Summer angling pressure ranged from 18,873 (2011) to 45,524 angler hours (2013; Table 3) for each summer period. The substantial increase in angler hours from 2011 to 2013 corresponded to increased catch and harvest rates for Walleye, Bluegill and Black Crappie. Mean party size ranged from 2.09 (2009) to 2.32 (2008 and 2011; Table 3) anglers. The mean trip length ranged from 3.84 (2010) to 4.77 hours (2011; Table 3). Most angler hours are attributed to anglers fishing from boats with proportions ranging from 85% (2007) to 90% (2013; Table 3) for all surveyed summers. The low

proportion of shore anglers is likely due to the lack of public access to most of the lake shore and difficulty quantifying shore fishing from private property.

Winter angling pressure varied substantially ranging from 1,597 (2010-2011) to 12,105 angler hours (2008-2009; Table 4) for each winter period. Mean party size ranged from 1.67 (2010-2011) to 1.83 (2006-2007; Table 4) anglers and mean trip length ranged from 2.85 (2006-2007) to 7.49 hours (2007-2008; Table 4). Angler hours attributed to anglers fishing from ice shacks ranged from 19% (2008-2009) to 78% (2007-2008; Table 4) and likely varied with winter weather conditions.

Angler Demographics

South Dakota residents comprised a moderate to high proportion of the anglers utilizing Enemy Swim Lake during the summer with overall percentages ranging from 52% (2010) to 78% (2009; Table 5). Most nonresident anglers utilizing Enemy Swim Lake during the summer were from Iowa, Minnesota, Nebraska and Wisconsin (Table 5). Home residence of winter anglers was similar to summer with overall proportion ranging from 49% (2006-2007) to 67% (2007-2008 and 2009-2010; Table 6). Most nonresident anglers fishing Enemy Swim Lake during the winter were from Minnesota (Table 6).

Angler Catch and Harvest

Black Crappie

Summer anglers had poor success catching Black Crappie. Overall catch rates ranged from 0.00 (2008) to 0.05 Black Crappie per hour (2007; Table 7). The estimated number of Black Crappie caught each summer ranged from 0 (2008) to 1,932 (2013; Table 9). The estimated number of Black Crappie harvested during the summers ranged from 0 (2008) to 1,206 (2013; Table 9). Black Crappie harvest was infrequent precluding length frequency analysis.

Winter anglers had poor to good success catching Black Crappie. Overall catch rates ranged from 0.02 (2009-2010) to 0.61 Black Crappie per hour (2006-2007; Table 8). The estimated number of Black Crappie caught each winter ranged from 37 (2009-2010) to 7,344 (2006-2007; Table 10). Overall harvest rates were high ranging from 0.01 (2009-2010) to 0.42 Black Crappie per hour (2006-2007; Table 8). The estimated number of Black Crappie harvested during the winters ranged from 12 (2009-2010) to 5,055 (2006-2007; Table 10). Length frequency analysis of Black Crappie harvested during the winter indicated consistently large size structure. The mean total length of harvested Black Crappie ranged from 303 mm (11.9 inches, 2010-2011) to 357 mm (14.1 inches, 2009-2010; Figure 1).

Bluegill

Summer anglers had fair to excellent success catching Bluegill. Overall catch rates ranged from 0.16 (2008) to 1.25 Bluegill per hour (2013; Table 7). The estimated number of Bluegill caught each summer ranged from 3,382 (2008) to 56,744 (2013; Table 9). Harvest rates were variable with the overall harvest rates ranging from <0.01 (2008) to 0.70 Bluegill per hour (2013; Table 7). The estimated number of Bluegill harvested during the summers ranged from 45 (2009) to 31,903 (2013; Table 9). Length frequency analysis indicated a relatively consistent size structure of harvested Bluegill. Harvested Bluegill ranged in mean total length from 192 mm (7.6 inches, 2007, 2008, 2010) to 230 mm

(9.1 inches, 2009; Figure 2). Bluegill in Enemy Swim Lake appear to have relatively consistent recruitment of varying magnitude resulting in variable angling pressure and harvest.

Winter anglers had excellent success catching Bluegill. Overall catch rates ranged from 1.57 (2009-2010) to 3.72 Bluegill per hour (2006-2007; Table 8). The estimated number of Bluegill caught during the winters ranged from 2,892 (2009-2010) to 44,816 (2006-2007; Table 10). Harvest rates were moderate ranging from 0.26 (2007-2008) to 0.69 Bluegill per hour (2010-2011; Table 8). The estimated number of Bluegill harvested each winter ranged from 669 (2009-2010) to 7,950 (2006-2007; Table 10). Length frequency analysis of Bluegill harvested during winter surveys indicated a trend similar to the summer survey. The size structure of the Bluegill harvest was similar among survey winters ranging from 184 mm (7.2 inches, 2006-2007) to 209 mm (8.2 inches, 2009-2010; Figure 3).

Largemouth Bass

Summer anglers had poor to fair success catching Largemouth Bass. Overall catch rates ranged from 0.08 (2010) to 0.24 Largemouth Bass per hour (2013; Table 7). The estimated number of Largemouth Bass caught during the summers ranged from 1,799 (2010) to 10,976 (2013; Table 9). Harvest was low with the estimated number ranging from 0 (2008 and 2011) to 1,344 (2013; Table 9). Harvest of Largemouth Bass during the summer was infrequent precluding length frequency analysis. Few Largemouth Bass were caught during the winter surveys precluding analysis.

Northern Pike

Data was limited for northern pike caught by anglers during the summer survey precluding analysis. Winter anglers had poor success catching Northern Pike. Overall catch rates ranged from 0.03 (2010-2011) to 0.08 Northern Pike per hour (2008-2009; Table 8). The estimated number of Northern Pike caught each winter ranged from 52 (2010-2011) to 981 (2008-2009; Table 10). Harvest rates of Northern Pike were high, though the total number harvested was low with the estimated number ranging from 39 (2009-2010) to 925 (2007-2008; Table 10). Low numbers of Northern Pike harvested during the winter periods preclude length frequency analysis.

Smallmouth Bass

Summer anglers had fair to excellent success catching Smallmouth Bass. Overall catch rates ranged from 0.38 (2008) to 0.97 Smallmouth Bass per hour (2011; Table 7). The estimated number of Smallmouth Bass caught during the summers ranged from 8,020 (2008) to 19,207 (2013; Table 9). Harvest of Smallmouth Bass was low with the estimated number ranging from 0 (2009) to 1,716 (2011; Table 9). Smallmouth Bass harvest during summer periods was infrequent precluding length frequency analysis.

Winter anglers had poor to excellent success catching Smallmouth Bass. Overall catch rates ranged from 0.00 (2010-2011) to 1.00 Smallmouth Bass per hour (2008-2009; Table 8). The estimated number of Smallmouth Bass caught each winter ranged from 0 (2010-2011) to 12,154 (2008-2009; Table 10). Harvest of Smallmouth Bass was low with the estimated number ranging from 0 (2007-2008, 2008-2009, 2009-2010 and 2010-2011) to 30 (2006-2007; Table 10). Low numbers of Smallmouth Bass harvested during the winter periods preclude length frequency analysis.

Walleye

Summer anglers had poor to fair success catching Walleye. Overall catch rates ranged from 0.01 (2009) to 0.23 Walleye per hour (2013; Table 7). The estimated number of Walleye caught during the summers ranged from 150 (2009) to 10,576 (2013; Table 9). Overall harvest rates were low ranging from 0.00 (2009 and 2011) to 0.06 Walleye per hour (2007; Table 7). The estimated number of Walleye harvested each summer ranged from 0 (2009 and 2011) to 1,713 (2013; Table 9). Low numbers of harvested Walleye were measured during the summer periods precluding length frequency analysis. However, low harvest rates may indicate that a large proportion of captured Walleye are below the minimum length limit.

Winter anglers also had poor to fair success catching Walleye. Overall catch rates ranged from <0.01 (2008-2009) to 0.18 Walleye per hour (2010-2011; Table 8). The estimated total catch of Walleye each winter ranged 30 (2008-2009) to 826 (2006-2007; Table 10). The estimated number of Walleye harvested during the winters ranged from 0 (2010-2011) to 448 (2006-2007; Table 10). Low numbers of Walleye harvested during the winter periods preclude length frequency analysis.

Yellow Perch

Summer anglers had poor to good success catching Yellow Perch. Overall catch rates ranged from 0.05 (2008) to 0.54 Yellow Perch per hour (2010; Table 7). The estimated number of Yellow Perch caught each summer ranged from 1,101 (2008) to 11,690 (2010; Table 9). Harvest was low with the estimated number ranging from 0 (2009) to 242 (2010; Table 9). Yellow Perch harvest was low during the summer periods precluding length frequency analysis.

Winter anglers had fair to excellent success catching Yellow Perch. Overall catch rates ranged from 0.23 (2008-2009) to 1.71 Yellow Perch per hour (2009-2010; Table 8). The estimated number of Yellow Perch caught during the winters ranged from 1,062 (2010-2011) to 12,389 (2006-2007; Table 10). Harvest was low with the estimated number ranging from 0 (2009-2010 and 2010-2011) to 432 (2006-2007; Table 10). Yellow Perch harvest was low during the winter periods precluding length frequency analysis.

Other species

Other species reported in low numbers during the summer and winter angler surveys at Enemy Swim Lake include: Common Carp, Pumpkinseeds, Rock Bass and White Bass.

Angler Opinions

Angler Satisfaction

During the summers of 2007-2011 and 2013 and the winters of 2006-2007, 2009-2010 and 2010-2011 anglers were asked to quantify angling satisfaction considering all factors. The question was changed after the summer of 2008 to include moderately satisfied and moderately dissatisfied. Overall summer angler satisfaction ranged from 58% (2007) to 98% (2013; Table 11) of interviewed anglers. Angler dissatisfaction ranged from 2% (2013) to 24% (2009; Table 11). High angler satisfaction during 2013 corresponds to the highest catch rates observed for Bluegill and Walleye. Conversely, the high angler dissatisfaction in 2009 corresponds to the lowest catch rate for Walleye and the second lowest catch rate for Bluegill.

Overall winter angler satisfaction ranged from 46% (2010-2011) to 75% (2006-2007; Table 12) of interviewed anglers. Angler dissatisfaction ranged from 14% (2006-2007) to 31% (2010-2011; Table 12) of interviewed anglers. High angler satisfaction during the winter of 2006-2007 corresponds to the highest observed catch rates for Black Crappie and Bluegill and the highest harvest rate observed for Walleye. High angler dissatisfaction during the winter of 2010-2011 does not correspond to poor catch rates. Catch rates were higher for Black Crappie, Bluegill and Walleye during the winter of 2010-2011 than 2009-2010. However, increased snowfall during the winter of 2010-2011 limited lake access and likely contributed to decreased angler satisfaction.

Angling Trip Success

During the summers of 2007-2010 and 2013 and the winters of 2006-2007 and 2010-2011 anglers were asked what the most important factor was to consider a fishing trip successful. Summer anglers most frequently indicated that 'catching fish' (ranging from 31% in 2010 to 51% in 2008) was the most important factor followed by 'relaxation' (ranging from 8% in 2013 to 31% in 2010; Table 13). 'Harvesting fish', 'participating', 'being with friends' and 'other' were cited infrequently.

Winter anglers cited 'catching fish' (with 31% in 2010-2011 and 40% in 2006-2007) and 'relaxation' (with 20% in 2006-2007 and 39% in 2010-2011; Table 14) as the most important factors. 'Participating' and 'harvesting fish' were moderately cited. 'Being with friends' and 'other' were rarely cited by winter anglers.

Northeast South Dakota Panfish Regulation

During the summer of 2009 and winter of 2009-2010 anglers were asked whether they were in favor of or oppose the special panfish regulation in northeast South Dakota. Most anglers (59% in 2009 and 89% in 2009-2010; Table 15) indicated they were in favor of the special regulation. Few anglers (6% in 2009 and 0% in 2009-2010; Table 15) indicated they were opposed to the regulation.

Table 1. Angler primary target species (percentage) by month and overall for anglers fishing Enemy Swim Lake, South Dakota during the summers of 2007-2011 and 2013. *May 2013 includes only May 15-31. ANY=anything, BLC=Black Crappie, BLG=Bluegill, LMB=Largemouth Bass, NOP= Northern Pike, SMB=Smallmouth Bass, WAE=Walleye, YEP=Yellow Perch.

Year	Month	Percent (%) of Anglers							
		ANY	BLC	BLG	LMB	NOP	SMB	WAE	YEP
2007	May	0.0	18.2	9.1	9.1	0.0	18.2	45.5	0.0
	June	5.0	8.3	18.3	6.7	0.0	11.7	45.0	1.7
	July	14.8	0.0	33.0	3.7	0.0	22.2	25.9	0.0
	August	15.0	0.0	45.0	5.0	0.0	10.0	25.0	0.0
	Overall	8.5	7.6	24.5	5.9	0.0	14.4	37.3	0.9
2008	May	28.6	0.0	0.0	0.0	0.0	14.3	57.1	0.0
	June	24.3	0.0	16.2	10.8	0.0	5.4	40.5	0.0
	July	9.5	0.0	9.5	0.0	9.5	14.3	57.1	0.0
	August	12.5	0.0	25.0	12.5	0.0	12.5	37.5	0.0
	Overall	19.2	0.0	13.7	6.9	2.7	9.6	46.6	0.0
2009	May	11.1	11.1	11.1	0.0	0.0	44.4	22.2	0.0
	June	35.3	0.0	11.8	11.8	0.0	17.7	23.5	0.0
	July	27.3	0.0	9.1	9.1	4.6	18.2	31.8	0.0
	August	12.5	0.0	12.5	0.0	0.0	50.0	0.0	25.0
	Overall	25.0	1.8	10.7	7.1	1.8	26.8	23.2	3.6
2010	May	50.0	0.0	0.0	0.0	0.0	12.5	37.5	0.0
	June	0.0	0.0	44.4	0.0	0.0	44.4	11.1	0.0
	July	30.0	0.0	10.0	10.0	0.0	30.0	20.0	0.0
	August	11.1	0.0	33.3	0.0	0.0	33.3	22.2	0.0
	Overall	22.2	0.0	22.2	2.8	0.0	30.6	22.2	0.0

Table 1. Continued.

Year	Month	Percent (%) of Anglers							
		ANY	BLC	BLG	LMB	NOP	SMB	WAE	YEP
2011	May	0.0	0.0	0.0	0.0	0.0	75.0	25.0	0.0
	June	28.6	0.0	0.0	0.0	0.0	42.9	28.6	0.0
	July	10.0	0.0	30.0	0.0	0.0	20.0	30.0	10.0
	August	0.0	0.0	50.0	0.0	0.0	25.0	0.0	25.0
	Overall	10.3	0.0	17.2	0.0	0.0	41.4	24.1	6.9
2013	*May	14.3	0.0	28.6	14.3	0.0	14.3	28.6	0.0
	June	27.8	16.7	0.0	0.0	0.0	16.7	38.9	0.0
	July	26.1	0.0	47.8	0.0	0.0	17.4	8.7	0.0
	August	11.8	0.0	76.5	0.0	0.0	11.8	0.0	0.0
	Overall	21.5	4.6	40.0	1.5	0.0	15.4	16.9	0.0

Table 2. Angler primary target species (percentage) by month and overall for anglers fishing Enemy Swim Lake, South Dakota during the winters of 2007-2008, 2008-2009, 2009-2010 and 2010-2011. ANY=anything, BLC= Black Crappie, BLG=Bluegill, NOP=Northern Pike, WAE=Walleye, YEP=Yellow Perch.

Year	Month	Percent (%) of Anglers						
		ANY	BLC	BLG	NOP	SMB	WAE	YEP
2006-2007	December	8.7	26.1	43.5	0.0	0.0	21.7	0.0
	January	20.0	6.7	53.3	0.0	2.2	17.8	0.0
	February	16.7	0.0	41.7	16.7	0.0	20.8	4.2
	March	14.3	0.0	57.1	10.7	3.6	10.7	0.0
	Overall	15.8	7.5	50.0	5.8	1.7	17.5	0.8
2007-2008	December	16.7	0.0	33.3	0.0	0.0	50.0	0.0
	January	30.8	20.5	28.2	0.0	0.0	18.0	2.6
	February	32.1	14.3	10.7	0.0	14.3	25.0	3.6
	March	46.2	0.0	38.5	7.7	7.7	0.0	0.0
	Overall	32.6	14.0	24.4	1.2	5.8	19.8	2.3
2008-2009	December	16.7	55.6	16.7	0.0	0.0	11.1	0.0
	January	0.0	0.0	100.0	0.0	0.0	0.0	0.0
	February	6.3	0.0	25.0	31.3	18.8	6.3	12.5
	March	5.6	0.0	22.2	11.1	50.0	5.6	0.0
	Overall	8.8	17.5	28.1	12.3	21.1	7.0	3.5
2009-2010	December	50.0	25.0	0.0	0.0	0.0	25.0	0.0
	January	14.3	0.0	28.6	0.0	14.3	28.6	14.3
	February	-----	-----	-----	-----	-----	-----	-----
	March	0.0	0.0	85.7	0.0	14.3	0.0	0.0
	Overall	16.7	5.6	44.4	0.0	11.1	16.7	5.6
2010-2011	December	0.0	20.0	70.0	0.0	0.0	10.0	0.0
	January	-----	-----	-----	-----	-----	-----	-----
	February	50.0	0.0	50.0	0.0	0.0	0.0	0.0
	March	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	Overall	15.4	15.4	61.5	0.0	0.0	7.7	0.0

Table 3. Angler demographics by month and overall including; the number of interviews, estimated angler hours, estimated angler days, estimated economic value (Eco value; \$), estimated trip length (h), average party size, percent (% SD) of interviewed anglers that were South Dakota residents, and percent (% Boat) of angler hours attributed to angling from a boat at Enemy Swim Lake, South Dakota during the summers of 2007-2011 and 2013. *May 2013 includes only May 15-31. One standard error is provided in parentheses when calculated.

Year	Month	# interviews	Angler hours	Angler days	Eco value (\$)	Trip length (hr)	Party size	% SD	% Boat or Shack
2007	May	11	5,430 (1,204)	1,050	52,515	5.17 (---)	2.52 (---)	40.0	66.2
	June	60	10,190 (1,874)	2,516	125,803	4.05 (0.22)	2.25 (1.71)	67.8	90.5
	July	27	6,258 (1,462)	1,449	72,431	4.32 (---)	2.10 (1.12)	81.5	86.0
	August	20	4,879 (1,118)	1,301	65,053	3.75 (---)	2.19 (---)	50.0	94.6
	Overall	118	26,757 (2,889)	6,194	309,688	4.32 (0.05)	2.27 (0.50)	65.5	85.3
2008	May	7	1,175 (236)	252	12,580	4.67 (---)	2.00 (0.61)	71.4	80.0
	June	38	8,019 (2,093)	2,121	106,071	3.78 (0.23)	2.23 (0.44)	54.1	85.0
	July	21	5,952 (1,970)	1,407	70,355	4.23 (---)	2.59 (0.15)	71.4	90.0
	August	8	5,848 (1,163)	1,354	67,685	4.32 (---)	2.47 (---)	87.5	91.9
	Overall	74	20,934 (3,109)	4,926	246,282	4.25 (0.06)	2.32 (0.19)	64.4	88.3
2009	May	9	3,801 (1,560)	756	37,783	5.03 (---)	2.30 (0.16)	77.8	72.7
	June	17	9,307 (2,082)	1,888	94,392	4.93 (0.40)	2.10 (0.35)	60.0	93.3
	July	22	7,124 (2,032)	1,738	86,878	4.10 (---)	1.95 (0.34)	81.8	85.1
	August	8	1,942 (442)	571	28,559	3.40 (---)	2.00 (---)	100.0	88.7
	Overall	56	22,174 (3,330)	5,051	252,551	4.39 (0.10)	2.09 (0.13)	77.8	86.7

Table 3. Continued.

Year	Month	# interviews	Angler hours	Angler days	Eco value (\$)	Trip length (hr)	Party size	% SD	% Boat or Shack
2010	May	8	4,235 (1,026)	1,186	59,314	3.57 (---)	1.59 (0.35)	85.7	75.3
	June	9	9,108 (3,191)	2,655	132,770	3.43 (---)	2.82 (---)	22.2	93.4
	July	10	6,564 (1,602)	1,552	77,589	4.23 (---)	2.34 (---)	60.0	87.4
	August	9	1,630 (419)	390	19,498	4.18 (---)	1.78 (---)	66.7	89.5
	Overall	36	21,536 (3,738)	5,608	280,417	3.84 (---)	2.20 (0.11)	57.1	87.7
2011	May	8	2,876 (249)	460	23,008	6.25 (---)	2.22 (0.22)	62.5	85.7
	June	7	7,206 (3,404)	2,252	112,594	3.20 (---)	2.72 (---)	57.1	94.9
	July	10	3,923 (1,270)	996	49,784	3.94 (0.42)	1.87 (0.19)	50.0	87.2
	August	4	4,868 (596)	865	42,233	5.63 (---)	2.50 (---)	50.0	85.2
	Overall	29	18,873 (3,690)	3,957	197,830	4.77 (0.11)	2.32 (0.07)	55.2	89.4
2013	*May	7	7,227 (337)	2,132	106,593	3.39 (0.79)	2.03 (0.83)	57.1	74.7
	June	18	8,744 (2,078)	1,935	96,726	4.52 (---)	1.96 (---)	55.6	89.0
	July	23	15,990 (3,443)	4,121	206,057	3.88 (---)	2.66 (---)	47.8	94.6
	August	17	13,564 (1,226)	3,523	176,156	3.85 (---)	2.59 (---)	52.9	93.1
	Overall	65	45,524 (4,218)	11,673	583,641	3.90 (0.20)	2.31 (0.21)	52.3	89.9

Table 4. Overall angler demographics including; the number of interviews, estimated angler hours, estimated angler days, estimated economic value (Eco value; \$), estimated trip length (h), average party size, percent (% SD) of interviewed anglers that were South Dakota residents, and percent (% Boat) of angler hours attributed to angling from a boat at Enemy Swim Lake, South Dakota during the winters of 2006-2007, 2007-2008, 2008-2009, 2009-2010 and 2010-2011. One standard error is provided in parentheses when calculated.

Year	Month	# interviews	Angler hours	Angler days	Eco value (\$)	Trip length (hr)	Party size	% SD	% Boat or Shack
2006-2007	December	23	2,384 (528)	893	44,644	2.67 (---)	1.79 (0.55)	56.5	50.5
	January	45	4,751 (1,076)	1,295	64,728	3.67 (---)	1.98 (0.76)	44.4	91.3
	February	24	1,574 (458)	894	44,716	1.76 (0.17)	1.90 (0.56)	45.8	71.9
	March	28	3,327 (853)	1,040	51,984	3.20 (---)	1.08 (0.46)	53.6	27.2
	Overall	120	12,035 (1,541)	4,223	211,140	2.85 (0.04)	1.83 (0.30)	49.2	63.0
2007-2008	December	6	1,185 (298)	95	4,740	12.50 (---)	1.17 (---)	33.3	79.1
	January	38	3,221 (535)	433	21,647	7.44 (0.53)	1.62 (0.26)	71.1	92.0
	February	27	2,802 (771)	255	12,725	11.01 (---)	1.57 (0.48)	66.7	86.1
	March	13	1,584 (525)	519	25,967	3.05 (0.17)	2.49 (1.25)	69.2	31.8
	Overall	84	8,792 (1,116)	1,174	58,692	7.49 (0.18)	1.71 (0.34)	66.7	77.5
2008-2009	December	18	671 (171)	174	8,714	3.85 (---)	1.61 (0.00)	44.4	95.7
	January	5	213 (106)	-----	-----	-----	-----	0.0	70.9
	February	16	9,492 (7,805)	1,695	84,750	5.60 (0.60)	1.79 (0.53)	75.0	9.9
	March	18	1,729 (439)	412	20,583	4.20 (---)	2.43 (0.37)	50.0	34.9
	Overall	57	12,105 (7,820)	2,869	143,424	4.22 (0.08)	1.71 (0.16)	50.9	19.3

Table 4. Continued.

Year	Month	# interviews	Angler hours	Angler days	Eco value (\$)	Trip length (hr)	Party size	% SD	% Boat or Shack
2009-2010	December	4	202 (86)	93	4,654	2.17 (---)	2.00 (---)	100.0	55.5
	January	7	901 (426)	351	17,529	2.57 (---)	1.68 (---)	71.4	100.0
	February	0	67 (57)	-----	-----	-----	-----	-----	-----
	March	7	675 (325)	156	7,795	4.33 (0.67)	1.72 (0.45)	42.9	39.1
	Overall	18	1,845 (546)	595	29,758	3.10 (0.24)	1.78 (0.16)	66.7	72.2
2010-2011	December	10	823 (360)	120	5,990	6.87 (---)	1.49 (---)	60.0	81.4
	January	0	58 (42)	-----	-----	-----	-----	-----	-----
	February	2	351 (244)	143	7,134	2.46 (---)	2.00 (---)	50.0	20.8
	March	1	365 (139)	-----	-----	-----	2.00 (---)	100.0	56.4
	Overall	13	1,597 (459)	272	13,580	5.88 (---)	1.67 (---)	61.5	63.1

Table 5. State residence (percentage) of anglers fishing Enemy Swim Lake, South Dakota during the summers of 2007-2011 and 2013.

	Percent (%) of anglers					
State	2007	2008	2009	2010	2011	2013
South Dakota	65.5	64.4	77.8	57.1	55.2	52.3
Arizona	0.0	0.0	0.0	0.0	0.0	3.1
Arkansas	0.9	0.0	0.0	0.0	0.0	4.6
California	0.9	0.0	0.0	0.0	0.0	0.0
Illinois	0.0	0.0	0.0	0.0	0.0	1.5
Iowa	6.9	2.7	7.4	5.7	3.5	7.7
Kansas	0.0	0.0	0.0	0.0	0.0	1.5
Maryland	0.9	0.0	0.0	0.0	0.0	0.0
Minnesota	14.7	20.6	5.6	11.4	10.3	20.0
Nebraska	6.9	6.9	3.7	11.4	27.6	4.6
North Dakota	0.0	1.4	1.9	2.9	3.5	3.1
Texas	0.0	0.0	1.9	0.0	0.0	0.0
Wisconsin	2.6	4.1	1.9	11.4	0.0	1.5

Table 6. State residence (percentage) of anglers fishing Enemy Swim Lake, South Dakota during the winters of 2006-2007, 2007-2008, 2008-2009, 2009-2010 and 2010-2011.

	Percent (%) of anglers				
State	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
South Dakota	49.2	66.7	50.9	66.7	61.5
Alabama	0.0	1.2	0.0	0.0	0.0
Iowa	6.7	4.8	1.8	0.0	0.0
Minnesota	35.5	16.7	42.1	22.2	38.5
Montana	0.0	0.0	3.5	11.1	0.0
Nebraska	3.3	3.6	0.0	0.0	0.0
Nevada	0.0	1.2	0.0	0.0	0.0
North Dakota	3.3	2.4	0.0	0.0	0.0
Wisconsin	1.7	3.6	1.8	0.0	0.0

Table 7. Estimated monthly and total catch rate per hour fished (C/h) and harvest rate per hour fished (H/h) for Black Crappie (BLC), Bluegill (BLG), Largemouth Bass (LMB), Smallmouth Bass (SMB), Walleye (WAE) and Yellow Perch (YEP) at Enemy Swim Lake, South Dakota during the summers of 2007-2011 and 2013. *May 2013 includes only May 15-31. One standard error is provided in parentheses when calculated.

Year	Month	BLC		BLG		LMB		SMB		WAE		YEP	
		C/h	H/h	C/h	H/h	C/h	H/h	C/h	H/h	C/h	H/h	C/h	H/h
2007	May	0.16 (0.09)	0.03 (---)	0.06 (0.02)	0.00 (0.00)	0.04 (0.02)	0.00 (0.00)	0.21 (---)	0.00 (0.00)	0.04 (0.04)	0.02 (0.02)	0.01 (0.01)	0.00 (0.00)
	June	0.05 (0.02)	<0.01 (<0.01)	0.38 (0.27)	0.17 (0.17)	0.13 (0.12)	0.00 (0.00)	0.31 (0.14)	<0.01 (<0.01)	0.37 (0.20)	0.09 (0.06)	0.17 (0.06)	<0.01 (<0.01)
	July	<0.01 (<0.01)	0.00 (0.00)	3.59 (1.39)	0.82 (---)	0.12 (0.07)	0.02 (0.02)	1.11 (0.57)	0.00 (0.00)	0.08 (0.08)	0.04 (0.03)	0.70 (0.33)	0.01 (0.01)
	August	0.00 (0.00)	0.00 (0.00)	1.19 (0.98)	0.35 (0.22)	0.08 (0.07)	0.01 (0.01)	0.80 (0.37)	0.03 (0.02)	0.17 (0.11)	0.06 (0.04)	0.12 (0.07)	0.02 (0.02)
	Overall	0.05 (0.01)	0.01 (---)	1.21 (0.47)	0.32 (0.10)	0.10 (0.05)	0.01 (<0.01)	0.56 (0.14)	0.01 (<0.01)	0.20 (0.07)	0.06 (0.02)	0.25 (0.08)	0.01 (0.01)
2008	May	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.08 (0.02)	0.00 (0.00)	0.12 (0.10)	0.00 (0.00)	0.06 (0.02)	0.06 (0.02)	0.00 (0.00)	0.00 (0.00)
	June	0.00 (0.00)	0.00 (0.00)	0.08 (0.10)	<0.01 (0.01)	0.19 (0.10)	0.00 (0.00)	0.58 (0.42)	0.03 (0.02)	0.06 (0.06)	0.03 (0.03)	0.01 (---)	<0.01 (---)
	July	0.00 (0.00)	0.00 (0.00)	0.05 (0.01)	0.00 (0.00)	0.09 (0.11)	0.00 (0.00)	0.35 (0.19)	0.00 (0.00)	0.06 (0.07)	0.04 (0.05)	0.08 (0.05)	0.00 (0.00)
	August	0.00 (0.00)	0.00 (0.00)	0.42 (0.28)	0.23 (0.14)	0.01 (0.01)	0.00 (0.00)	0.19 (0.15)	0.00 (0.00)	0.01 (0.01)	0.01 (0.01)	0.10 (0.10)	0.00 (0.00)
	Overall	0.00 (0.00)	0.00 (0.00)	0.16 (0.07)	0.07 (0.03)	0.11 (0.05)	0.00 (0.00)	0.38 (0.16)	0.01 (0.01)	0.05 (0.02)	0.04 (0.02)	0.05 (0.03)	<0.01 (<0.01)
2009	May	0.00 (0.00)	0.00 (0.00)	0.80 (---)	0.00 (---)	0.18 (0.16)	0.00 (0.00)	0.43 (0.53)	0.00 (0.00)	<0.01 (---)	0.00 (0.00)	0.11 (---)	0.00 (---)
	June	0.00 (0.00)	0.00 (0.00)	0.19 (0.13)	0.00 (0.00)	0.10 (0.04)	0.00 (0.00)	0.44 (0.36)	0.00 (0.00)	0.01 (0.01)	0.00 (0.00)	0.07 (0.03)	0.00 (0.00)
	July	0.01 (0.01)	0.00 (0.00)	0.14 (0.08)	0.01 (0.01)	0.21 (0.26)	0.00 (0.00)	0.69 (0.25)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.37 (0.09)	0.00 (0.00)
	August	0.00 (0.00)	0.00 (0.00)	0.19 (0.12)	0.00 (0.00)	0.33 (0.13)	0.02 (0.02)	0.62 (0.23)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
	Overall	<0.01 (<0.01)	0.00 (0.00)	0.28 (0.07)	<0.01 (<0.01)	0.17 (0.09)	<0.01 (<0.01)	0.54 (0.20)	0.00 (0.00)	0.01 (<0.01)	0.00 (0.00)	0.17 (0.03)	0.00 (0.00)

Table 7. Continued.

Year	Month	BLC		BLG		LMB		SMB		WAE		YEP	
		C/h	H/h	C/h	H/h	C/h	H/h	C/h	H/h	C/h	H/h	C/h	H/h
2010	May	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.01 (0.01)	0.00 (0.00)	0.31 (0.25)	0.00 (0.00)	0.06 (0.02)	0.04 (0.03)	0.00 (0.00)	0.00 (0.00)
	June	0.00 (0.00)	0.00 (0.00)	0.89 (0.62)	0.23 (0.17)	0.14 (0.09)	0.01 (0.01)	0.69 (0.36)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.94 (0.78)	0.03 (0.03)
	July	0.00 (0.00)	0.00 (0.00)	0.03 (0.02)	0.00 (0.00)	0.08 (0.08)	0.00 (0.00)	0.67 (0.36)	0.01 (0.02)	0.01 (0.01)	0.00 (0.00)	0.39 (0.14)	0.00 (0.00)
	August	0.01 (0.01)	0.00 (0.00)	0.07 (0.08)	0.02 (0.04)	0.00 (0.00)	0.00 (0.00)	0.42 (0.38)	0.00 (0.00)	0.04 (0.03)	0.00 (0.00)	0.37 (0.32)	0.00 (0.00)
	Overall	<0.01 (<0.01)	0.00 (0.00)	0.39 (0.24)	0.10 (0.06)	0.08 (0.04)	<0.01 (<0.01)	0.59 (0.19)	<0.01 (0.01)	0.02 (0.01)	0.01 (0.01)	0.54 (0.32)	0.01 (0.01)
2011	May	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.18 (---)	0.00 (---)	1.23 (0.18)	0.00 (0.00)	0.21 (---)	0.00 (---)	0.09 (---)	0.00 (---)
	June	0.00 (0.00)	0.00 (0.00)	0.19 (---)	0.05 (---)	0.21 (---)	0.00 (---)	0.55 (---)	0.06 (---)	0.10 (---)	0.00 (---)	0.08 (---)	0.00 (---)
	July	0.00 (0.00)	0.00 (0.00)	1.32 (0.97)	0.10 (0.08)	0.00 (0.00)	0.00 (0.00)	1.14 (0.75)	0.10 (0.09)	0.08 (0.01)	0.00 (0.00)	0.39 (---)	0.00 (---)
	August	0.03 (---)	0.03 (---)	0.93 (---)	0.50 (---)	0.00 (0.00)	0.00 (0.00)	1.32 (---)	0.19 (---)	0.26 (---)	0.00 (---)	0.13 (---)	0.01 (---)
	Overall	0.01 (---)	0.01 (---)	0.59 (0.21)	0.17 (0.04)	0.11 (---)	0.00 (---)	0.97 (0.23)	0.10 (0.03)	0.15 (0.03)	0.00 (0.00)	0.16 (---)	<0.01 (---)
2013	*May	0.02 (---)	0.02 (---)	0.02 (<0.01)	0.02 (<0.01)	0.95 (1.12)	0.18 (0.28)	0.23 (0.15)	0.00 (0.00)	0.15 (0.01)	0.13 (0.01)	0.02 (---)	0.02 (---)
	June	0.06 (0.04)	0.06 (0.04)	0.32 (---)	0.20 (---)	0.07 (0.03)	0.01 (<0.01)	0.43 (0.19)	0.01 (<0.01)	0.39 (0.10)	0.05 (0.02)	0.00 (0.00)	0.00 (0.00)
	July	0.03 (0.03)	0.02 (0.03)	1.43 (0.76)	0.79 (0.44)	0.17 (0.10)	0.00 (0.00)	0.43 (0.19)	<0.01 (<0.01)	0.28 (0.18)	0.02 (0.01)	0.12 (0.08)	<0.01 (<0.01)
	August	0.06 (0.02)	0.01 (0.01)	2.28 (0.31)	1.28 (0.23)	0.06 (0.05)	0.00 (0.00)	0.52 (0.07)	0.02 (<0.01)	0.12 (0.05)	<0.01 (<0.01)	0.07 (0.02)	0.00 (0.00)
	Overall	0.04 (0.02)	0.03 (0.01)	1.25 (0.19)	0.70 (0.11)	0.24 (0.18)	0.03 (0.04)	0.42 (0.08)	0.01 (<0.01)	0.23 (0.07)	0.04 (0.010)	0.07 (0.03)	0.01 (<0.01)

Table 8. Estimated monthly and overall catch rate per hour fished (C/h) and harvest rate per hour fished (H/h) for Black Crappie (BLC), Bluegill (BLG), Northern Pike (NOP), Smallmouth Bass (SMB), Walleye (WAE) and Yellow Perch (YEP) at Enemy Swim Lake, South Dakota during the winters of 2006-2007, 2007-2008, 2008-2009, 2009-2010 and 2010-2011. One standard error is provided in parentheses when calculated.

Year	Month	BLC		BLG		NOP		SMB		WAE		YEP	
		C/h	H/h	C/h	H/h	C/h	H/h	C/h	H/h	C/h	H/h	C/h	H/h
2006-2007	December	2.62 (0.65)	1.77 (0.52)	5.94 (1.64)	0.41 (0.21)	0.12 (0.08)	0.12 (0.08)	0.04 (0.05)	0.00 (0.00)	0.11 (0.06)	0.11 (0.06)	0.12 (0.18)	0.05 (0.05)
	January	0.17 (0.15)	0.17 (0.14)	2.47 (2.61)	0.59 (0.68)	0.00 (0.00)	0.00 (0.00)	0.12 (---)	0.01 (0.01)	0.05 (0.04)	0.03 (0.03)	0.62 (0.68)	0.05 (0.05)
	February	0.00 (0.00)	0.00 (0.00)	2.08 (1.17)	0.65 (0.57)	0.01 (0.01)	0.01 (0.01)	0.03 (0.02)	0.00 (0.00)	0.06 (0.12)	0.01 (0.01)	0.32 (---)	0.07 (0.05)
	March	0.08 (0.04)	0.02 (0.01)	4.70 (1.45)	0.95 (0.47)	0.05 (0.04)	0.04 (0.03)	0.29 (0.15)	0.00 (0.00)	0.06 (0.03)	0.01 (0.01)	2.60 (---)	0.00 (0.00)
	Overall	0.61 (0.17)	0.42 (0.12)	3.72 (1.33)	0.66 (0.32)	0.04 (0.02)	0.04 (0.02)	0.14 (0.04)	<0.01 (<0.01)	0.07 (0.03)	0.04 (0.02)	1.03 (0.37)	0.04 (0.02)
2007-2008	December	0.24 (0.15)	0.06 (0.05)	2.95 (2.43)	0.50 (0.44)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.14 (0.16)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
	January	0.12 (0.08)	0.09 (0.07)	2.20 (1.66)	0.12 (0.09)	0.01 (0.01)	0.01 (0.01)	0.07 (0.04)	0.00 (0.00)	0.04 (0.02)	0.01 (0.01)	0.06 (0.08)	<0.01 (<0.01)
	February	0.06 (0.06)	0.04 (0.04)	0.11 (0.11)	0.03 (0.03)	0.02 (0.01)	0.01 (0.01)	0.35 (0.28)	0.00 (0.00)	0.14 (0.08)	0.01 (<0.01)	0.05 (---)	0.01 (---)
	March	0.00 (0.00)	0.00 (0.00)	10.06 (15.72)	0.76 (0.97)	0.17 (0.18)	0.08 (0.09)	0.00 (0.00)	0.00 (0.00)	0.08 (0.09)	0.00 (0.00)	2.33 (2.02)	0.08 (0.09)
	Overall	0.09 (0.04)	0.05 (0.03)	3.05 (2.10)	0.26 (0.14)	0.04 (0.03)	0.02 (0.02)	0.14 (0.07)	0.00 (0.00)	0.09 (0.04)	0.01 (<0.01)	0.46 (0.35)	0.02 (0.02)
2008-2009	December	0.40 (0.47)	0.40 (0.47)	1.33 (1.07)	0.35 (0.29)	0.01 (0.01)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.05 (0.04)	0.05 (0.04)	0.00 (0.00)	0.00 (0.00)
	January	0.00 (0.00)	0.00 (0.00)	4.81 (---)	0.76 (---)	0.03 (---)	0.03 (---)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
	February	0.04 (0.05)	0.04 (0.05)	2.70 (3.89)	0.37 (0.46)	0.09 (0.10)	0.09 (0.10)	0.89 (1.14)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.27 (0.44)	<0.01 (<0.01)
	March	0.01 (---)	0.01 (---)	4.61 (4.02)	0.24 (0.06)	0.08 (0.05)	0.05 (0.04)	2.17 (0.61)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.17 (0.19)	0.00 (0.00)
	Overall	0.05 (0.05)	0.05 (0.05)	2.94 (3.18)	0.35 (0.36)	0.08 (0.08)	0.08 (0.07)	1.00 (0.95)	0.00 (0.00)	<0.01 (<0.01)	<0.01 (<0.01)	0.23 (0.34)	<0.01 (<0.01)

Table 8. Continued.

Year	Month	BLC		BLG		NOP		SMB		WAE		YEP	
		C/h	H/h	C/h	H/h	C/h	H/h	C/h	H/h	C/h	H/h	C/h	H/h
2009-2010	December	0.06 (0.10)	0.06 (0.10)	0.06 (0.10)	0.06 (0.10)	0.00 (0.00)	0.00 (0.00)	0.25 (0.22)	0.00 (0.00)	0.12 (0.20)	0.12 (0.20)	0.12 (0.10)	0.00 (0.00)
	January	0.00 (0.00)	0.00 (0.00)	0.36 (0.17)	0.16 (0.08)	0.04 (0.03)	0.04 (0.03)	0.00 (0.00)	0.00 (0.00)	0.04 (0.03)	0.04 (0.03)	0.47 (0.40)	0.00 (0.00)
	February	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
	March	0.04 (---)	0.00 (---)	3.78 (5.04)	0.76 (1.29)	0.05 (---)	0.03 (0.01)	0.31 (---)	0.00 (---)	0.00 (0.00)	0.00 (0.00)	4.00 (---)	0.00 (0.00)
	Overall	0.02 (0.01)	0.01 (0.01)	1.57 (1.25)	0.36 (0.35)	0.04 (0.01)	0.03 (0.01)	0.14 (0.05)	0.00 (0.00)	0.03 (0.02)	0.03 (0.02)	1.71 (0.87)	0.00 (0.00)
2010-2011	December	0.89 (0.47)	0.66 (0.35)	5.20 (3.68)	0.92 (0.64)	0.03 (0.02)	0.01 (0.02)	0.00 (0.00)	0.00 (0.00)	0.35 (---)	0.00 (0.00)	1.29 (---)	0.00 (0.00)
	January	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
	February	0.00 (0.00)	0.00 (0.00)	0.68 (0.97)	0.52 (0.74)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
	March	0.00 (0.00)	0.00 (0.00)	0.90 (---)	0.45 (---)	0.08 (---)	0.08 (---)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
	Overall	0.46 (0.19)	0.34 (0.14)	3.03 (1.73)	0.69 (0.35)	0.03 (0.01)	0.02 (0.01)	0.00 (0.00)	0.00 (0.00)	0.18 (0.12)	0.00 (0.00)	0.67 (---)	0.00 (0.00)

Table 9. Estimated monthly and overall catch and harvest of Black Crappie (BLC), Bluegill (BLG), Largemouth Bass (LMB), Smallmouth Bass (SMB), Walleye (WAE), Yellow Perch (YEP) and total at Enemy Swim Lake, South Dakota during summers of 2007-2011 and 2013. *May 2013 includes only May 15-31. One standard error is provided in parentheses when calculated.

Year	Month	BLC		BLG		LMB		SMB		WAE		YEP		Total	
		C	H	C	H	C	H	C	H	C	H	C	H	C	H
2007	May	871 (209)	163 (53)	327 (106)	0 (0)	214 (93)	0 (0)	1,114 (162)	0 (0)	214 (157)	109 (78)	53 (68)	0 (0)	2,929 (379)	381 (49)
	June	454 (341)	40 (58)	3,868 (2,238)	1,738 (1,482)	1,346 (692)	0 (0)	3,135 (1,029)	27 (27)	3,755 (1,629)	864 (386)	1,741 (715)	27 (28)	14,642 (3,832)	2,724 (2,103)
	July	15 (16)	0 (0)	22,491 (12,240)	5,116 (2,246)	750 (345)	107 (124)	6,913 (2,512)	0 (0)	498 (565)	257 (247)	4,367 (1,779)	77 (89)	37,650 (13,799)	5,572 (2,228)
	August	0 (0)	0 (0)	5,786 (2,763)	1,712 (598)	395 (352)	30 (22)	3,897 (1,075)	121 (88)	808 (324)	267 (114)	603 (208)	79 (61)	11,550 (3,756)	2,210 (722)
	Overall	1,341 (401)	204 (78)	32,471 (12,747)	8,566 (2,756)	2,705 (855)	138 (126)	15,059 (2,924)	149 (92)	5,275 (1,761)	1,496 (479)	6,763 (1,930)	183 (111)	66,770 (14,811)	10,887 (3,148)
2008	May	0 (0)	0 (0)	0 (0)	0 (0)	96 (0)	0 (0)	137 (113)	0 (0)	69 (19)	69 (19)	0 (0)	0 (0)	325 (160)	69 (19)
	June	0 (0)	0 (0)	667 (736)	32 (28)	1,519 (687)	0 (0)	4,647 (1,955)	210 (143)	494 (230)	479 (231)	47 (38)	16 (14)	9,630 (2,390)	1,493 (91)
	July	0 (0)	0 (0)	280 (159)	56 (53)	531 (602)	0 (0)	2,105 (511)	0 (0)	380 (263)	252 (184)	449 (207)	0 (0)	3,969 (1,254)	307 (235)
	August	0 (0)	0 (0)	2,435 (577)	1,342 (0)	70 (79)	0 (0)	1,130 (539)	0 (0)	70 (80)	70 (80)	605 (354)	0 (0)	4,363 (1,286)	1,412 (80)
	Overall	0 (0)	0 (0)	3,382 (949)	1,429 (60)	2,216 (917)	0 (0)	8,020 (2,094)	210 (143)	1,013 (359)	869 (307)	1,101 (412)	16 (14)	18,286 (2,994)	3,281 (265)
2009	May	0 (0)	0 (0)	3,034 (---)	0 (---)	691 (310)	0 (0)	1,642 (1,318)	0 (0)	49 (---)	0 (---)	405 (---)	0 (---)	5,962 (2,744)	0 (0)
	June	0 (0)	0 (0)	1,737 (1,100)	0 (0)	879 (360)	0 (0)	4,135 (1,819)	0 (0)	102 (59)	0 (0)	628 (252)	0 (0)	8,696 (2,976)	0 (0)
	July	45 (47)	0 (0)	1,001 (309)	45 (47)	1,514 (1,832)	0 (0)	4,887 (1,053)	0 (0)	0 (0)	0 (0)	2,658 (454)	0 (0)	10,240 (1,868)	45 (47)
	August	0 (0)	0 (0)	366 (223)	0 (0)	642 (179)	37 (29)	1,198 (236)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2,362 (483)	37 (29)
	Overall	45 (47)	0 (0)	6,138 (1,164)	45 (47)	3,727 (1,901)	37 (29)	11,862 (2,492)	0 (0)	150 (59)	0 (0)	3,690 (519)	0 (0)	27,260 (4,484)	82 (55)

Table 9. Continued.

Year	Month	BLC		BLG		LMB		SMB		WAE		YEP		Total	
		C	H	C	H	C	H	C	H	C	H	C	H	C	H
2010	May	0 (0)	0 (0)	0 (0)	0 (0)	43 (49)	0 (0)	1,331 (1,085)	0 (0)	258 (64)	172 (151)	0 (0)	0 (0)	2,259 (1,172)	364 (151)
	June	0 (0)	0 (0)	8,078 (4,964)	2,113 (1,252)	1,266 (668)	57 (40)	6,262 (2,268)	0 (0)	0 (0)	0 (0)	8,556 (6,616)	242 (235)	24,589 (11,893)	2,468 (1,482)
	July	0 (0)	0 (0)	175 (125)	0 (0)	490 (403)	0 (0)	4,393 (1,028)	87 (110)	87 (62)	0 (0)	2,539 (670)	0 (0)	7,772 (1,596)	87 (110)
	August	12 (10)	0 (0)	107 (78)	24 (34)	0 (0)	0 (0)	678 (434)	0 (0)	60 (52)	0 (0)	595 (363)	0 (0)	1,451 (573)	24 (34)
	Overall	12 (10)	0 (0)	8,360 (4,966)	2,137 (1,253)	1,799 (782)	57 (40)	12,664 (2,750)	87 (110)	404 (103)	172 (151)	11,690 (6,660)	242 (235)	36,071 (12,070)	2,943 (1,494)
2011	May	0 (0)	0 (0)	0 (0)	0 (0)	518 (---)	0 (---)	3,548 (416)	0 (0)	592 (---)	0 (---)	259 (---)	0 (---)	5,494 (443)	0 (0)
	June	0 (0)	0 (0)	1,339 (---)	335 (---)	1,506 (---)	0 (---)	3,948 (---)	402 (---)	682 (---)	0 (---)	581 (---)	0 (---)	8,736 (---)	736 (---)
	July	0 (0)	0 (0)	5,167 (3,408)	404 (303)	0 (0)	0 (0)	4,477 (1,531)	404 (210)	326 (229)	0 (0)	1,528 (652)	0 (0)	13,028 (4,779)	1,212 (805)
	August	136 (---)	136 (---)	4,546 (---)	2,433 (---)	0 (0)	0 (0)	6,407 (---)	910 (---)	1,240 (---)	0 (---)	620 (---)	68 (---)	13,157 (---)	3,687 (---)
	Overall	136 (---)	136 (---)	11,051 (3,408)	3,172 (303)	2,024 (---)	0 (---)	18,379 (1,586)	1,716 (210)	2,840 (229)	0 (0)	2,988 (652)	68 (0)	40,416 (4,799)	5,635 (805)
2013	*May	175 (---)	175 (---)	175 (0)	175 (0)	6,841 (8,049)	1,284 (2,010)	1,660 (906)	0 (0)	1,100 (50)	926 (50)	175 (---)	175 (---)	10,125 (6,124)	2,734 (2,177)
	June	531 (167)	531 (167)	2,782 (1,717)	1,740 (1,101)	591 (208)	60 (0)	3,730 (718)	44 (17)	3,417 (661)	474 (91)	0 (0)	0 (0)	14,470 (3,556)	3,218 (1,012)
	July	396 (334)	352 (291)	22,878 (9,276)	12,678 (4,556)	2,705 (1,161)	0 (0)	6,793 (1,592)	44 (45)	4,436 (1,561)	264 (145)	1,893 (895)	44 (45)	39,528 (11,559)	13,426 (4,610)
	August	831 (263)	148 (113)	30,909 (4,407)	17,311 (2,135)	839 (627)	0 (0)	7,025 (367)	211 (38)	1,623 (210)	49 (38)	926 (211)	0 (0)	42,202 (4,216)	17,769 (2,275)
	Overall	1,932 (457)	1,206 (354)	56,744 (10,413)	31,903 (5,150)	10,976 (8,159)	1,344 (2,010)	19,207 (2,002)	299 (61)	10,576 (1,709)	1,713 (182)	2,993 (919)	219 (45)	106,324 (14,197)	37,147 (5,674)

Table 10. Estimated monthly and overall catch and harvest of Black Crappie (BLC), Bluegill (BLG), Northern Pike (NOP), Smallmouth Bass (SMB), Walleye (WAE), Yellow Perch (YEP) and total at Enemy Swim Lake, South Dakota during the winters of 2006-2007, 2007-2008, 2008-2009, 2009-2010 and 2010-2011. One standard error is provided in parentheses when calculated.

Year	Month	BLC		BLG		NOP		SMB		WAE		YEP		Total	
		C	H	C	H	C	H	C	H	C	H	C	H	C	H
2006-2007	December	6,243 (1,829)	4,206 (1,114)	14,152 (3,293)	965 (352)	274 (188)	274 (188)	99 (116)	0 (0)	262 (111)	255 (106)	275 (228)	107 (116)	21,341 (4,644)	5,808 (1,439)
	January	827 (583)	790 (579)	11,751 (6,060)	2,798 (1,647)	0 (0)	0 (0)	580 (238)	30 (28)	249 (131)	142 (103)	2,958 (1,540)	217 (111)	16,366 (6,886)	3,977 (1,745)
	February	0 (0)	0 (0)	3,276 (1,472)	1,030 (590)	13 (11)	13 (11)	44 (33)	0 (0)	101 (88)	21 (16)	503 (209)	108 (58)	3,949 (1,971)	1,173 (601)
	March	275 (224)	59 (32)	15,637 (5,492)	3,157 (1,162)	177 (92)	147 (89)	958 (437)	0 (0)	213 (97)	29 (29)	8,652 (3,359)	0 (0)	26,090 (8,193)	3,392 (1,193)
	Overall	7,344 (1,933)	5,055 (1,256)	44,816 (8,938)	7,950 (2,193)	464 (210)	434 (208)	1,680 (512)	30 (28)	826 (216)	448 (151)	12,389 (3,708)	432 (171)	67,746 (11,831)	14,349 (2,627)
2007-2008	December	282 (130)	71 (62)	3,492 (2,737)	597 (499)	0 (0)	0 (0)	0 (0)	0 (0)	162 (182)	0 (0)	0 (0)	0 (0)	3,937 (2,624)	667 (560)
	January	371 (193)	272 (201)	7,093 (4,638)	395 (288)	40 (17)	20 (15)	208 (158)	0 (0)	113 (41)	26 (23)	189 (105)	6 (4)	8,020 (3,793)	719 (45)
	February	172 (173)	109 (117)	310 (135)	96 (50)	61 (27)	40 (24)	986 (470)	0 (0)	380 (125)	21 (12)	147 (---)	29 (---)	2,062 (671)	303 (163)
	March	0 (0)	0 (0)	15,941 (12,633)	1,210 (715)	266 (276)	130 (138)	0 (0)	0 (0)	130 (138)	0 (0)	3,685 (2,966)	130 (138)	20,281 (16,427)	1,469 (963)
	Overall	825 (290)	452 (241)	26,837 (13,734)	2,297 (919)	367 (278)	190 (141)	1,194 (496)	0 (0)	782 (264)	47 (26)	4,021 (2,968)	165 (138)	34,300 (17,076)	3,159 (1,127)
2008-2009	December	271 (237)	271 (237)	892 (396)	232 (103)	7 (7)	0 (0)	0 (0)	0 (0)	30 (28)	30 (28)	0 (0)	0 (0)	1,313 (579)	533 (352)
	January	0 (0)	0 (0)	1,023 (---)	161 (---)	7 (---)	7 (---)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1,030 (---)	168 (---)
	February	334 (334)	334 (334)	25,671 (30,287)	3,468 (3,344)	836 (671)	836 (671)	8,399 (8,357)	0 (0)	0 (0)	0 (0)	2,544 (3,603)	16 (21)	37,784 (40,750)	4,655 (4,346)
	March	16 (---)	16 (---)	7,972 (5,191)	415 (35)	131 (43)	81 (43)	3,755 (344)	0 (0)	0 (0)	0 (0)	288 (320)	0 (0)	12,171 (5,423)	516 (53)
	Overall	620 (410)	620 (410)	35,558 (30,731)	4,276 (3,345)	981 (672)	925 (672)	12,154 (8,364)	0 (0)	30 (28)	30 (28)	2,832 (3,617)	16 (21)	52,298 (41,113)	5,871 (4,361)

Table 10. Continued.

Year	Month	BLC		BLG		NOP		SMB		WAE		YEP		Total	
		C	H	C	H	C	H	C	H	C	H	C	H	C	H
2009-2010	December	12 (19)	12 (19)	12 (19)	12 (19)	0 (0)	0 (0)	50 (38)	0 (0)	25 (38)	25 (38)	25 (18)	0 (0)	124 (87)	50 (77)
	January	0 (0)	0 (0)	328 (0)	146 (0)	32 (16)	32 (16)	0 (0)	0 (0)	32 (16)	32 (16)	421 (224)	0 (0)	814 (255)	211 (33)
	February	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	March	25 (---)	0 (---)	2,551 (840)	510 (280)	36 (---)	19 (0)	210 (---)	0 (---)	0 (0)	0 (0)	2,701 (---)	0 (0)	5,524 (---)	530 (280)
	Overall	37 (19)	12 (19)	2,892 (841)	669 (281)	69 (16)	52 (16)	260 (38)	0 (0)	57 (42)	57 (42)	3,147 (225)	0 (0)	6,462 (270)	790 (292)
2010-2011	December	730 (219)	546 (163)	4,275 (2,374)	757 (406)	25 (12)	11 (12)	0 (0)	0 (0)	286 (297)	0 (0)	1,062 (297)	0 (0)	6,396 (2,520)	1,315 (566)
	January	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	February	0 (0)	0 (0)	238 (298)	181 (226)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	238 (298)	181 (226)
	March	0 (0)	0 (0)	328 (---)	164 (---)	27 (---)	27 (---)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	355 (---)	191 (---)
	Overall	730 (219)	546 (163)	4,841 (2,393)	1,102 (465)	52 (12)	39 (12)	0 (0)	0 (0)	286 (297)	0 (0)	1,062 (297)	0 (0)	6,989 (2,538)	1,687 (609)

Table 11. Enemy Swim Lake, South Dakota angler responses (percentage of total) during the summers of 2007-2011 and 2013 to the question: “Considering all factors, how satisfied are you with your fishing trip today?” N is the number of responses. During the summers of 2007 and 2008 (*) moderately satisfied and moderately dissatisfied were not options for angler response.

Response	Percent (%) of anglers					
	2007* N=116	2008* N=73	2009 N=17	2010 N=36	2011 N=29	2013 N=65
Very Satisfied	40.5	46.6	23.5	16.7	41.4	64.6
Moderately Satisfied	-----	-----	23.5	33.3	37.9	24.6
Slightly Satisfied	17.2	17.8	11.8	16.7	6.9	9.2
Neutral	27.6	21.9	17.7	11.1	3.5	0.0
Slightly Dissatisfied	11.2	13.7	17.7	11.1	0.0	0.0
Moderately Dissatisfied	-----	-----	5.9	2.8	3.5	1.5
Very Dissatisfied	3.5	0.0	0.0	8.3	6.9	0.0

Table 12. Enemy Swim Lake, South Dakota angler responses (percentage of total) during the winters of 2006-2007, 2009-2010 and 2010-2011 to the question: “Considering all factors, how satisfied are you with your fishing trip today?” N is the number of responses. During the winter of 2006-2007 (*) moderately satisfied and moderately dissatisfied were not options for angler response.

Response	Percent (%) of anglers		
	2006-2007 N=97	2009-2010 N=18	2010-2011 N=13
Very Satisfied	60.8	27.8	30.8
Moderately Satisfied	-----	22.2	15.4
Slightly Satisfied	14.4	5.6	0.0
Neutral	10.3	16.7	23.1
Slightly Dissatisfied	3.1	27.8	0.0
Moderately Dissatisfied	-----	0.0	30.8
Very Dissatisfied	11.3	0.0	0.0

Table 13. Enemy Swim Lake, South Dakota angler response (percentage of total) during the summers of 2007- 2011 and 2013 to the question: “What is the most important factor to you in defining a successful fishing trip?” N is the number of responses.

Response	Percent (%) of anglers				
	2007 N=116	2008 N=73	2010 N=36	2011 N=29	2013 N=65
Relaxation	17.2	20.6	30.6	10.3	7.7
Harvesting Fish	12.9	15.1	0.0	3.5	9.2
Participate	15.5	5.5	8.3	6.9	24.6
Catching Fish	44.8	50.7	30.6	31.0	46.2
Being with Friends	6.9	6.9	22.2	17.2	6.2
Other	2.6	1.4	8.3	31.0	6.2

Table 14. Enemy Swim Lake, South Dakota angler response (percentage of total) during the winters of 2006-2007 and 2010-2011 to the question: “What is the most important factor to you in defining a successful fishing trip?” N is the number of responses.

Response	Percent (%) of anglers	
	2006-2007 N=97	2010-2011 N=13
Relaxation	19.6	38.5
Harvesting Fish	15.5	7.7
Participate	20.6	23.1
Catching Fish	40.2	30.8
Being with Friends	0.0	0.0
Other	4.1	0.0

Table 15. Enemy Swim Lake, South Dakota angler response (percentage of total) during the summer of 2009 and winter of 2009-2010 to the question: “Are you in favor of the reduced panfish limits in northeast South Dakota?” N is the number of responses.

Response	Percent (%) of anglers	
	2009 N=18	2009-2010 N=17
Yes	58.8	88.9
No Opinion	35.3	11.1
No	5.9	0.0

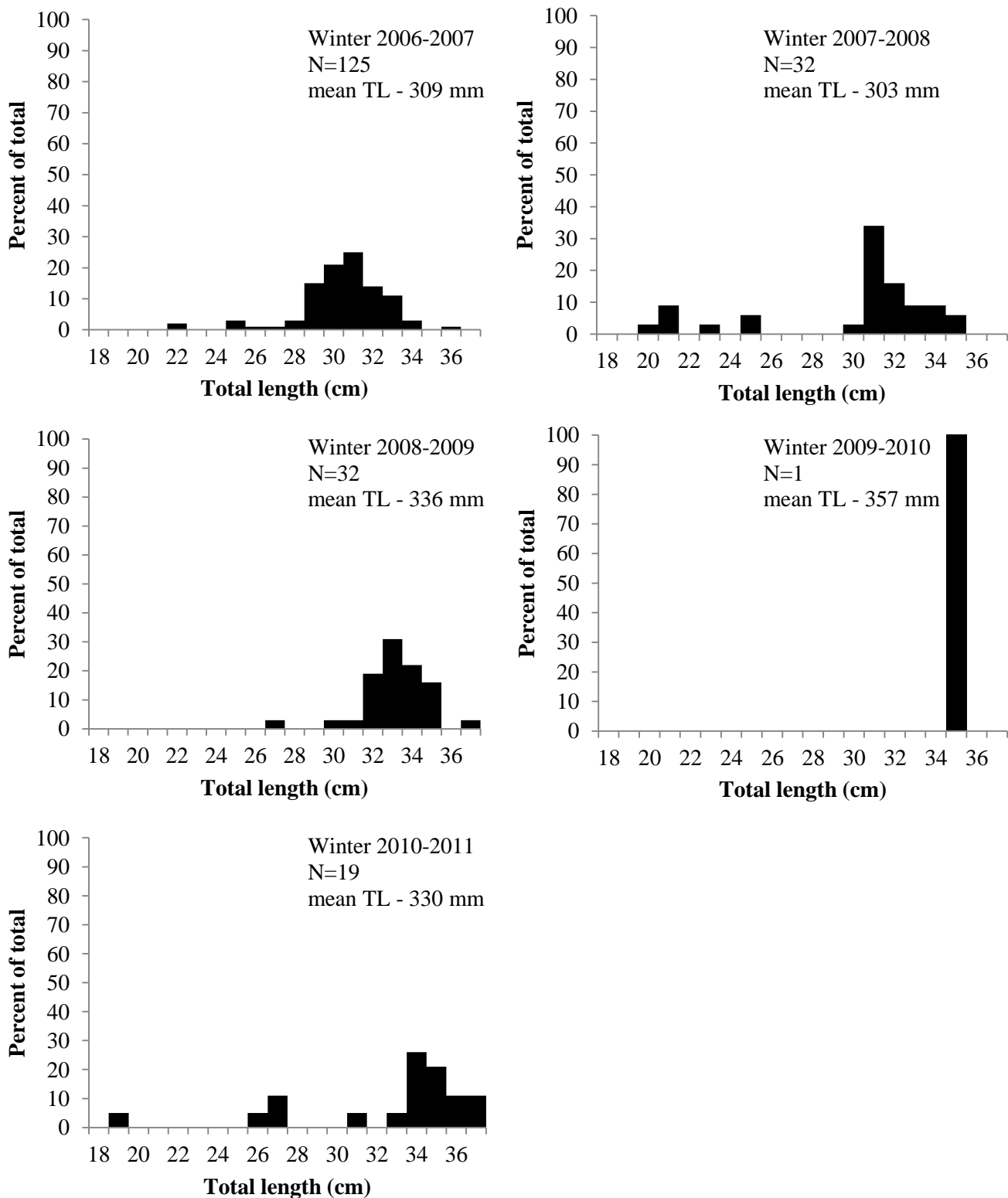


Figure 1. Length frequency histogram of Black Crappie harvested by anglers fishing Enemy Swim Lake during the winters of 2006-2007, 2007-2008, 2008-2009, 2009-2010 and 2010-2011. N is the total number of fish measured and mean TL is the mean total length (mm) of harvested Black Crappie.

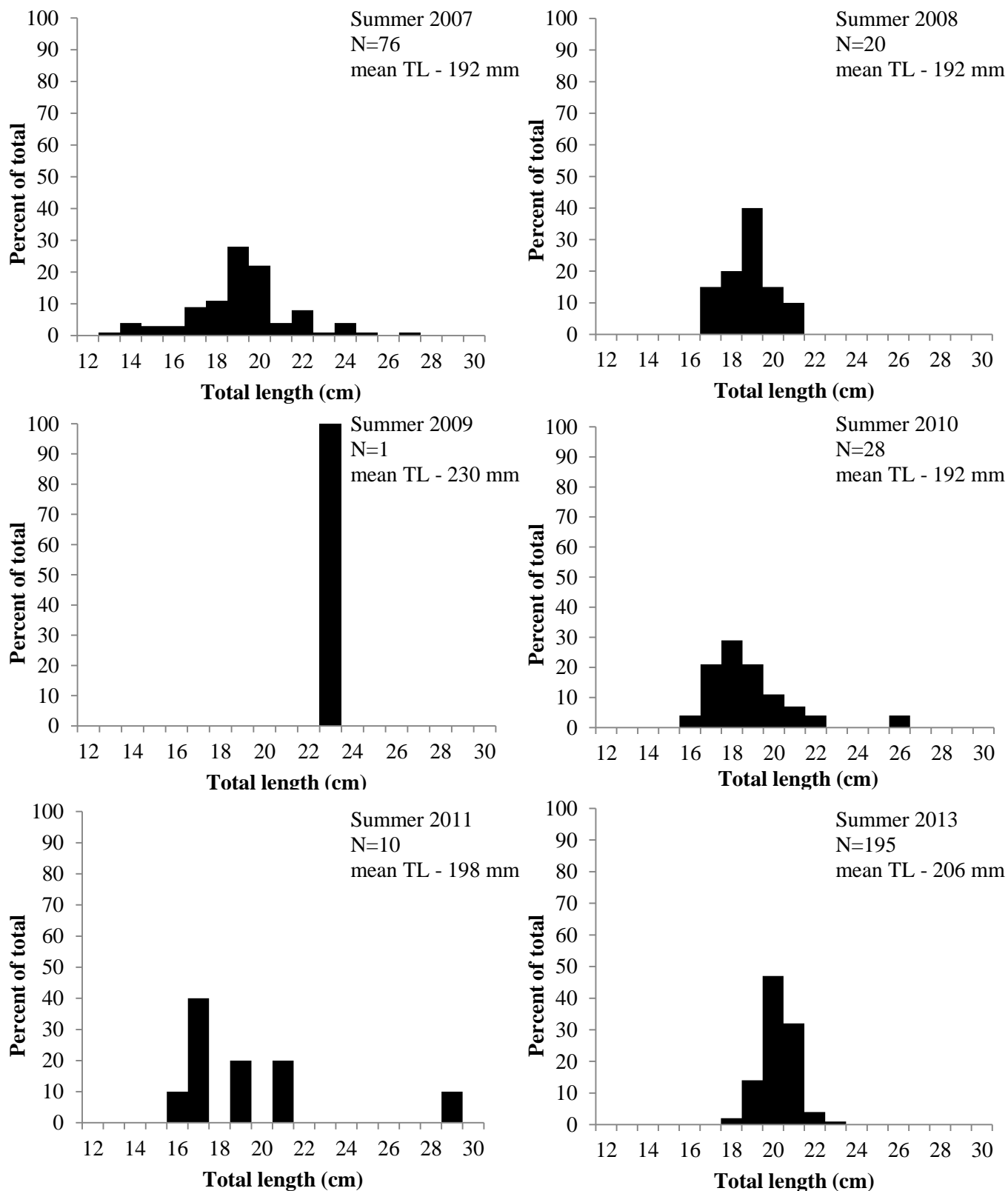


Figure 2. Length frequency histogram of Bluegill harvested by anglers fishing Enemy Swim Lake during the summers of 2007-2013. N is the total number of fish measured and mean TL is the mean total length (mm) of harvested Bluegill.

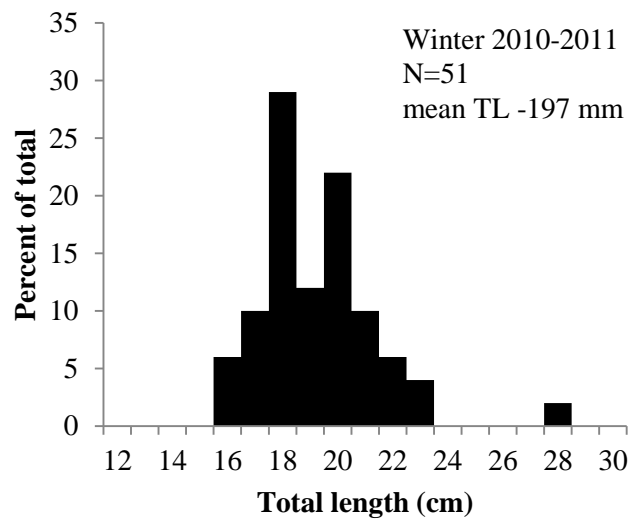
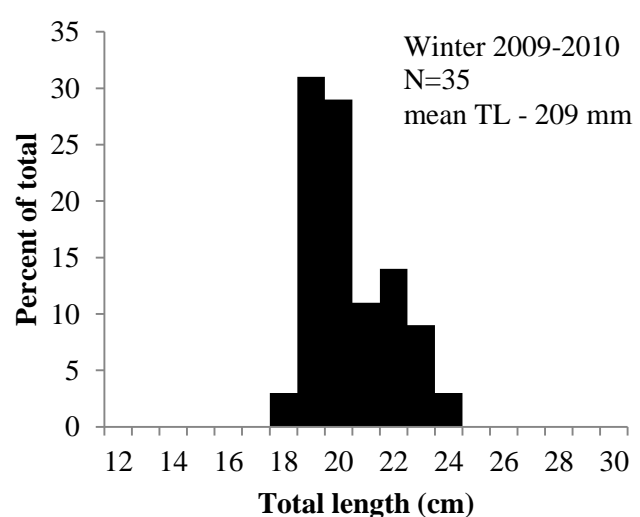
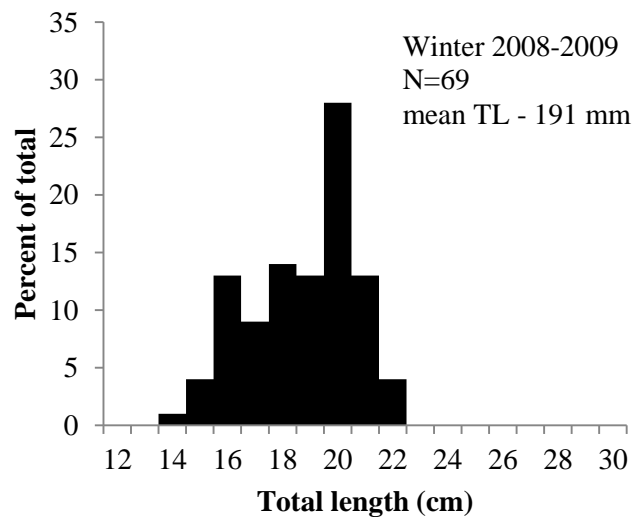
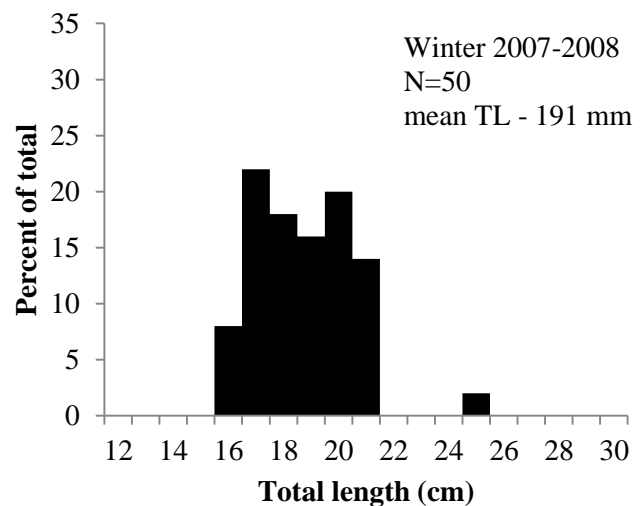
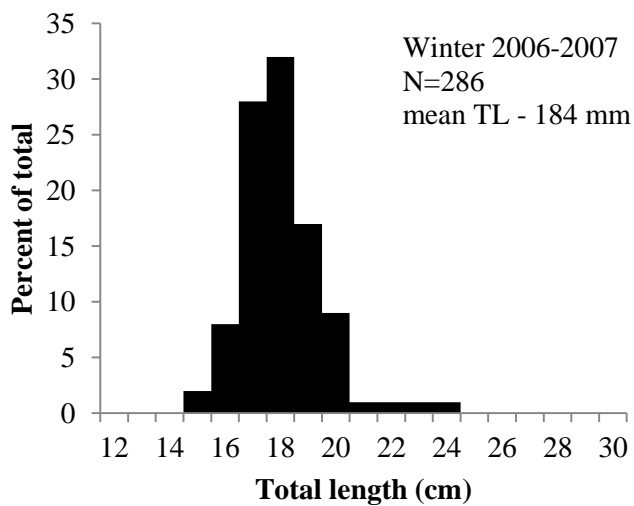


Figure 3. Length frequency histogram of Bluegill harvested by anglers fishing Enemy Swim Lake during the winters of 2006-2007, 2007-2008, 2008-2009, 2009-2010 and 2010-2011. N is the total number of fish measured and mean TL is the mean total length (mm) of harvested Bluegill.

References

- Blackwell, B. G., and D. O. Lucchesi. 2009. South Dakota black bass toolbox. South Dakota Department of Game Fish and Parks, Completion Report 09-03, Pierre.
- Lucchesi, D. O., and B. G. Blackwell. 2009. South Dakota walleye toolbox. South Dakota Department of Game Fish and Parks, Completion Report 09-04, Pierre.
- Soupir, C.A. and M.L. Brown. 2002. Comprehensive evaluation and modification of the South Dakota angler creel program. South Dakota Department of Game, Fish and Parks, Completion Report 02-10, Pierre.
- United States Department of the Interior, Fish and Wildlife Service and United States Department of Commerce, Bureau of the Census. 2011. 2011 National survey of fishing, hunting, and wildlife-associated recreation. U.S. Government Printing Office, Washington, D.C.